

[For additional information on the growth of plantation agriculture
see category 311, 6: Spate AW1 India.]

431 (2) The Traditional Economic System

423 The kanam tenure had significance as an institution which linked the system of payments in kind, found within the inland villages, to the cash economy of the coastal towns. Tradition-
●[433]ally, each village appears to have been self-sufficient for the basic necessities of life. The high castes paid lower caste servants daily or thrice annually in paddy and the lower castes traded services and some goods with each other with paddy as their medium of exchange. Irava tenants paid their rents in paddy to Nayar kanakkar, who in turn paid a much smaller rent in paddy to the janmi.

Nayar men, however, though they lived mainly from the produce of their estates, were also paid in cash by the Raja in return for military service.

[42] The use of money was otherwise confined mainly to the coast-towns and to overseas' trade with the Arabs, Portuguese, Dutch, French and English in pepper and other commodities. This trade was largely carried on by the Muslims, who were originally, from the ninth century, converted from the lower Hindu castes by Arab traders. Muslim middlemen obtained pepper
[442] from cultivators of inland and foothill villages in return for cloth obtained from overseas, or manufactured by Hindu castes of weavers in the towns. They traded the pepper for cash to Arabs and Europeans. The royal lineage obtained revenue by several kinds of taxes levelled on this merchandise, and paid the Nayar armies from its coffers. The Nayars in turn made periodic kanam cash payments to Nambudiri and other

[651]

Nayar: Central Kerala

[121] The Nayars, unlike the groups so far described, form only a part-
564 society—a named category of castes within the social system of south-
west India. An account of their kinship system therefore requires a
[121] sketch of the political and economic system in which they were em-
bedded. It seems to have been the Nayars' role as a specialized oc-
cupational group within a complex society which accounted for the
most unusual features of their kinship institutions.

101 The Nayars differ also from the other groups considered with re-
564 gard to their relatively high level of technological development. At
463 least from the first century A.D., Kerala's social structure was based
241 upon plough agriculture with irrigation, specialized crafts, and over-
433 seas trade (K. M. Panikkar, 1945: 36). Productivity was sufficiently
[439] high so that more than one-quarter of the population could be ex-
empted from manual labor and set apart as specialist, literate groups
engaged in religion, government, warfare, and wholesale trade. The
[162] Nayars, as the ruling and military castes, formed the core of this
aristocracy and probably comprised between one-quarter and one-
fifth of the total population.¹

611 Partly as a result of direct legal changes brought about since the
178 British conquest of 1792, and, more deeply, as a result of the change
177 to an industrial fuel technology, the Nayar system of matrilineal
groups has been gradually disintegrating over the past hundred years.
Some of the traditional functions of these matrilineal units are being
taken over by the elementary family and by the wider, personal, bi-
lateral kindred of each individual. Other former functions of matri-
lineal groups have passed to such modern bureaucratic institutions as
121 government, army, law court, and school. Because this book is a com-
611 parative study of matrilineal systems, I shall concentrate on Nayar
lineages and kinship in the "traditional" period before the British

[161] ¹ Buchanan estimated the population density of Central Kerala at 100 per square
mile in 1800 (1807, II: 501). The density for Cochin State was 814 per square
mile in 1931 (Census of India, Cochin State, 1931).

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[343] entertaining friends, or sleeping when they were not visiting their wives. A cowshed a few yards from the residential buildings completed the arrangements in a normal retainer homestead. In village headmen's and chiefly households whose women often had Brahman husbands a separate building with its own kitchen was set aside to entertain the men when they visited their wives.

[351] The buildings and outer courtyard were surrounded by a shady garden of coconut, jack, cashew, and mango trees. Chiefs and village [312] headmen had a private bathing pool with stone steps round it in their own gardens. Retainers more often bathed in the large public bathing [515] pools attached to the temples and reserved for "clean" castes of the village. Men and women bathed and swam daily on opposite sides of the pool.

351 In the southwest corner of the garden an open space was set aside
613 as the property group's cremation ground, entered only at funerals.
[769] In another corner was a dense shrubbery devoted to the snake gods
[776] of the group. Offerings were made there to small stone images of
[782] cobras, and if real cobras appeared they were regarded as manifesta-
[825] tions of these deities.

A high bamboo fence surrounded the whole establishment. It was entered through a wooden gatehouse within which armed men might sit on guard in time of war.

592
241 *Economic Activities* The property group obtained almost all of its subsistence from garden and paddy lands held on tenure from the village landlord and cultivated by Tiyyar sub-tenants or by Pulaya serfs. The property group surrendered part of its produce in kind as dues to the landlord. It retained part for maintenance, stored part for repayment to its serfs as daily subsistence, and gave portions twice annually to the village servant households. Tiyyar tenants retained enough for their own needs, but gave the bulk of their produce to their Nayar masters. Increasingly during the period of European trade

[439] the property group also sold spices and coconuts to Muslim middlemen in exchange for cash or cloth. The cash was used to buy brass [432] and silver vessels, gold ornaments and jewelry, and other luxury goods [431] from the towns. The property group gave some cloth to its serfs and tenants at festivals once a year.

613 The karanavan managed all these transactions and controlled the group's estate. He might allocate specific tasks of management to juniors, but no payment was made on behalf of the group, no crops [592] were sold, and no goods were consumed without his consent. Junior [465] men serving in the king's wars received small daily cash sums on an

Nayar: North Kerala

The Nayars of North Kerala live between the Chandragiri and the Kora rivers. This area lay north of the Calicut kingdom and had been conquered by the Kolattiri kings at some period before the fourteenth century (Logan, 1951, I: 283; Innes, 1908: 57). It then disintegrated into the small kingdoms of Kolattunad, Kottayam, and Kadattunad. North Kerala was invaded from the Bednur kingdom of South Canara in the 1730's. It was later occupied by Muslim armies from Mysore between 1768 and 1792, after which it passed under British rule (Logan, 1951, I: 360, 399-473). This account deals with conditions before 1760, so far as these are known, and with the major changes of the nineteenth century. 175
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[131]

Ecology

The mountains approach nearer to the sea in North Kerala than in Central Kerala. There are fewer stretches of lowland suitable for wet-rice cultivation, and gardens of fruits, nuts, vegetables, and spices on hillsides are more extensive. Since rice was the main subsistence crop, population density was lower than in Central Kerala. The houses of a village (*dēsam*) were scattered in gardens on hillsides surrounding a wet-rice flat in a valley. Villages were often separated by three to six miles of uncultivated scrub or jungle. Until the Mysoreans built roads after the 1760's, transport and communication by narrow mountain paths were difficult, especially in the heavy monsoons. 133
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North Kerala had four major ports during the period of European trade—Cannanore, Tellicherry, Mahé, and Badagara (Hamilton, ed. 1727: 369-371). Pepper and other spices were exported from inland villages probably from Roman times, but villages were virtually self-sufficient for food until the mid-eighteenth century. After that time the Mysoreans' roads permitted greater import of goods both from the coast and from Mysore, and greater spatial mobility. In the nineteenth century cash-crop farming for export increased, as did imports of 439
[504]
[433]
[491]

11: India

● 433

AW11 Kerala AW11

/For further information on economic development and planning, including the part and potential productive capacity of agriculture and various industries in Kerala, see category 116, pp. vi-viii, 9-13, 15-21, 25, 28-65, 72-125, 128, 130, and 133-138./

Chapter 1

The Setting

KERALA IS THE smallest State in the whole of India.¹ It is a narrow strip of land along the western coast of India. It has an area of 14,992 square miles² and the coastal line is nearly 360 miles. The breadth of the State varies from 20 to 75 miles, as one moves from the extreme north to the middle. Its boundaries touch the State of Mysore in the north and that of erstwhile Madras in the east and south-east. It lies between 8°15' and 12°45'N latitude and 74°50' and 77°30'E longitude.

1.2 Kerala was created in 1956 at the time of the reorganization of the State through the integration of the erstwhile State of Travancore-Cochin and the Malabar district and the Kasargod taluk in South Kanara district of the erstwhile Madras State. At the same time Travancore-Cochin lost Kanyakumari, part of the Trivandrum district and Shencottah, part of the Quilon district, to Madras State. However, the net area of the State increased by about two-thirds after the reorganization of the State. Prior to the formation of Kerala as a separate State, Travancore-Cochin was administratively divided into four districts, while Malabar was a single district. At the time of integration, Malabar was broken up into three districts. Subsequently, during 1957 two new districts, viz., Alleppey and Ernakulam were carved out of the territory belonging to Trichur, Kottayam and Quilon. The State, therefore, now comprises nine districts. The total length of the State from its northern extremity to the southern tip is about 360 miles. But its width is nowhere more than 75 miles.

PHYSICAL FEATURES

1.3 The State territory may be broadly classified into three natural sub-divisions, the highland, the midland and the lowland. Western Ghats which range along the eastern border of the State form the highland. This is mostly a mountainous and rocky terrain ranging in height from 3,000 ft. to 8,000 ft. Anamudi, the highest peak of the Western Ghats (8,837 ft.) is located in the Kottayam district. The highland is thickly forested in its upper ranges, while in the lower ranges the forests are interspersed with plantations.

1.4 On the western fringe of the State are the lowlands which stretch along the coastal plain. Coconut palms, which cover most of this area, lend a richness to the landscape of the region. The soil in this plain is sandy. Coir-making and fishing are the two main occupations. Sandwiched between the lowland and the highland

¹ Excluding the Union Territories.

² Statistical Outline of Kerala State, Department of Statistics, Government of Kerala.

162 The fall in the participation ratio between 1931-51¹ may be attributed to three
464 factors:

- (i) Rise in the sex ratio in favour of females.
- (ii) Increase in the school-going population.
- (iii) Slow growth in employment opportunities.

11.17 The force of the first two factors, however, is not sufficient to explain the steep decline in the participation rate. A fall of the magnitude, as shown in the above table, primarily indicates that the increase in opportunities for gainful employment has not been keeping pace with the growth of population which had increased by over 40 per cent between 1931 and 1951 without any corresponding growth of industries or development in other sectors.

REGIONAL VARIATIONS IN POPULATION DENSITY AND MANPOWER

11.18 Kerala is the most thickly populated State of India having an average density of 1,125 persons to a square mile according to the Census of 1961. The population, however, is not uniformly spread out as may be noticed from the district density figures in Table 58. Malabar is less thickly populated than the Travancore-Cochin area. But the proportion of working force to total population, that is, the participation rate is also lower in the Malabar area. Generally, it is expected that participation rate would be lower in the more congested areas, because an over-crowded agricultural sector naturally offers limited scope for employment. The comparison of Travancore-Cochin and Malabar, however, seems to belie this conclusion. The reason for this contrast perhaps lies in the fact that the major part of the coir industry, the most labour-intensive industry of Kerala, is concentrated mostly in the Travancore-Cochin region.¹ Absence of this industry on a large scale in Malabar seems to account for a lower participation rate in that area.

Occupational Distribution

11.19 Occupational pattern generally gives a broad idea as to the stage of economic development attained by a country or a region. The distribution of working force between agricultural and non-agricultural sectors, is given separately for the rural and urban sectors, in Table 59. A comparison with the all-India occupational distribution brings out a marked contrast in the case of Kerala. Whereas 71.8 per cent of the working force was engaged in agricultural occupations in the whole of India, in case of Kerala the proportion was only 51.4 per cent. In fact in Kerala the proportion of its population dependent upon non-agricultural activities turns out to be the highest in the whole of India.

¹ The difference in the concepts used in 1931 and 1951 Censuses perhaps exaggerates the extent of decline in the participation rates, but it does convey some idea of the fast deterioration in the unemployment situation over the years.

² Both these aspects have also been dealt with in Chapter 1.

3,4 [see p 310, category 116 -- Analysis]

11.20 As a general rule one associates a high proportion of working force engaged in non-agricultural activities with a high level of industrial development. However, the structure of industries and income contributed by industries¹ do not bear out this contention. Moreover, the Census of 1951 shows that 75 per cent of the non-agricultural population lives in the rural areas. This only goes to prove that the major part of non-agricultural activity is not organized on the lines of modern large scale industry but is composed of occupations more allied to agriculture which are located in the rural areas. 162 464 433

11.21 Two factors, which have already been referred to in a different context, seem to be responsible for this peculiar type of occupational structure. These are:

- (i) *Predominance of Perennial Crops*: Over 40 per cent of gross cropped area is covered by these crops (all-India 10%). Since these crops, once they are sown, require comparatively little labour for looking after them, tend to reduce the proportion of working force to the population engaged in agricultural activities. 247
- (ii) *Small Size of Holdings*: Super-imposed upon this is the fact that the average size of holdings in Kerala is very small. This tends to push people away from agricultural to non-agricultural avocations. Coir industry, which is mostly located in the rural areas, is an important example of such non-agricultural occupations. 423 288

Changes in Occupational Structure

11.22 Between the Census of 1931 and 1951 population dependent upon agriculture increased from 34.2 per cent to 53.84 per cent. It brings out one fact quite clearly. Although the non-agricultural sector is quite large in terms of its existing employment potential, it has not been dynamic enough to grow at a rate sufficiently large to absorb the growing population. One other consequence of a growing reliance on agriculture, in spite of the congestion already existing there, is the rising proportion of agricultural labourers to total population. Cultivation of owned land cannot be expected to provide a reasonable source of livelihood for all the rural population, when as high as 50 per cent of family holdings are less than one acre in size. The proportion of agricultural labourers to total population, therefore, increased from 12.5 per cent in 1931 to 20.16 per cent in 1951. 423

PART II: PROSPECTS OF EMPLOYMENT

LABOUR FORCE AND UNEMPLOYMENT

11.23 Some indication has already been given of the high degree of unemployment prevailing in the economy of Kerala. Before proceeding to make a quantitative assessment of the extent of unemployment, it is desirable to clarify the definition of 464

¹ Chapter 9, Industries—Structure and Growth.

² Chapter 1 and Chapter 2.

MANPOWER AND EMPLOYMENT

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Supply of Labour

11.36 In addition to the current back-log of unemployment, the two sources of future labour supply would be : (i) growth of population, (ii) changes in labour force population ratio. Of these, by far the most important source will be the growth of population. Long run changes in the labour force population ratio are difficult to predict. For the comparatively short period of next 10 years, this ratio may be assumed to remain constant at about 37.9 per cent or so.

11.37 A look at the population figures in Kerala over the last few decades shows that this State has witnessed a higher rate of growth of population than India as a whole and that during 1941-51 it was higher (22.82%) than in any other State.¹ There are indications to believe that the rate of growth of population during the coming decade may not be so fast. The following table gives the projections for growth of population² and the labour force arising out of it during the period 1956-71.

GROWTH OF POPULATION—PROJECTIONS FOR 1956-71

Year	Population (million)	Increase in Population over the previous five years (million)	Increase in the labour force (Labour force population Ratio—37.9 per cent) (million)
1956	13.01	..	..
1961	16.60	1.67	.633
1966	18.34	1.66	.629
1971	20.12	1.78	.674
			1.936
			.660
			2.596
			.200*
			2.396

Backlog of unemployment in 1956

Jobs created during the Second Plan

Additional labour supply during 1961-71

* *Employment Trends and Prospects*—Planning Commission. Approximate estimates of employment created during the Second Plan may also be derived from investment figures. On this basis we get a smaller figure for employment generated during the Second Plan period. Public sector investment during the Second Plan was about Rs. 75 crores. Adding 50 per cent for private investment the total comes to Rs. 112.5 crores. Assuming that an investment of roughly Rs. 8,000 is required to create an additional job, the number of jobs created during the Second Plan comes to about 1.4 lakhs.

11.38 The above figures may be taken to be only rough approximations, since the projections of population and labour force ratios are based on certain assumptions. However, the magnitude of the problem is well illustrated by the fact that during the coming decade an additional 23.96 lakh jobs will have to be created if something approaching the standards of full employment has to be achieved. This figure is almost 50 per cent of the existing working force.

¹ 1961 Census—Provisional Population figures.

² Based on NCAER population projections. It may be noted that the NCAER projections would have to be slightly modified in the light of the 1961 Census data. However, the extent of difference would not be so large as to make any substantial difference to our calculations.

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TECHNO-ECONOMIC SURVEY OF KERALA

TABLE 2
DENSITY OF POPULATION IN KERALA

District	Population	Density per sq. mile
Trivandrum	1,738,085	2,052
Quilon	1,929,843	994
Allappay	1,809,530	2,343
Kottayam	1,730,436	743
Ernakulam	1,838,440	1,468
Trichur	1,634,251	1,422
Palghat	1,773,477	896
Kozhikode	2,619,285	1,283
Cannanore	1,779,852	649
KERALA	18,878,109	1,185

SOURCE: 1961 Census Provisional Population figures.

TABLE 3
ESTIMATE OF STATE INCOME OF KERALA (1955-56)
(At current prices)

	Kerala		India	
	Rs. crores	Per cent	Rs. crores	Per cent
A. Primary Income	173.8	49.1	4,520.0	45.4
1. Agriculture	151.3	43.1	4,300.0	44.9
2. Animal Husbandry	10.7	3.0	70.0	0.9
3. Forestry	5.0	1.4	60.0	0.6
4. Fisheries	5.3	1.6	1,120.0	10.8
B. Secondary Income	52.3	14.0	780.0	7.8
1. Factory enterprises	18.0	4.8	970.0	9.7
2. Non-factory enterprises	32.3	9.6	100.0	1.0
3. Mining	2.0	0.6		
C. Tertiary Income	100.8	30.3	3,010.0	30.3
1. Communications	3.5			
2. Railways	55.9			
3. Other Transport and Commerce	3.5			
4. Organized Banks and Insurance	31.3			
5. Professions, Arts and Domestic Services	14.6			
6. Public Authorities	18.0			
7. House Property				
TOTAL	327.0	100	9,940	100
Population (millions)	15.01		383.0	
Per Capita Income	234.4		261.0	

[Pp. 216-269 have NOT been processed]

TABLES

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TABLE 4

SECTORAL EMPLOYMENT AND LABOUR PRODUCTIVITY IN KERALA (1955-56)

	Working force		Net value added per worker (Rs.)	
	Kerala		Kerala	India
	Lakhs ^a	Per cent		
1. Primary Sector	27.6	54.9	71.8	411
2. Secondary Sector	9.7 (100%)	19.3	9.4	539
(a) Factory Enterprises	1.7 (17.5%)	..	..	1,059
(b) Non-factory Enterprises	7.8 (80.4%)	..	..	413
(c) Mining	0.2 (2.1%)	..	..	..
3. Tertiary Sector	13.0	25.8	18.8	975.4
TOTAL	50.3	100.00	100.00	851.00

^a Recently, the Statistics Department of the Government of Kerala conducted an Integrated Sample Survey. According to this, estimate of total employment in Kerala during 1957-58 was 46.3 lakhs. The difference between these estimates and the one given above are obviously due to difference in the concepts used. The concepts used here are based on classification adopted in the 1951 Census. For the purpose of this report figures based on the Census data are being used. Since Techno-Economic Surveys of other States have also used Census data for calculation of working force, the uniformity provided by this data possesses the advantage that it allows inter-State comparisons. The alternative estimates of employment structure in Kerala, as revealed by the Integrated Sample Survey are given below:

	(In lakhs)
1. Primary Sector	24.5
2. Secondary Sector	9.4
(a) Mining	0.3
(b) Factory	1.5
(c) Non-factory	7.4
3. Tertiary Sector	12.4
TOTAL	46.3

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TABLE 10
AREA AND PRODUCTION OF PRINCIPAL CROPS IN KERALA
(1950-51 AND 1958-59)

	Area under crops ('000 acres)		Percentage increase or decrease	Production of crops ('000 tons)		Percentage increase or decrease
	1950-51	1958-59		1950-51	1958-59	
Rice	1,901	1,894	- 0.36	715	939	+ 31.3
Jowar	6	4	- 33.3	3	7	+ 133.3
Ragi	11	12	+ 9.1	5	7	+ 40
Other millets	30	14	- 53.3	3	2	- 33.3
Total cereals	1,948	1,924	- 1.2	726	954	+ 31.4
Tur	7	21	+ 200	1	4	+ 300
Other pulses	23	89	+ 286.9	1	13	+ 1200
Total pulses	30	110	+ 266.6	2	17	+ 750
Cereals & pulses	1,978	2,034	+ 2.8	728	971	+ 33.3
Sugarcane	2	21	+ 950	4	35	+ 755
Ginger	30	22	- 26.7	10	7	- 30
Chillies	8	8		2	2	
Tobacco		1				
Groundnuts	28	33	+ 17.8	14	15	+ 7.1
Sesamum	8	50	+ 525	1	5	+ 400
Total oilseeds	36	83	+ 130.5	15	20	+ 33.3
Cotton	18	21	+ 16.6	6	7	+ 16.6
Tapioca	505	553	+ 11	1,500	1,569	+ 4.6
Total field crops	2,578	2,718	+ 5.4	2,263	2,869	+ 26.6
Black pepper	173	224	+ 29.5	18	24	+ 33.3
Cardamom	63	69	+ 9.5	1	1	
Rubber	132	246	+ 86.3	12,998	22,158	+ 70.4
Tea	92	98	+ 6.5	24,314	39,737	+ 62.0
Coffee	28	41	+ 46.4	2,951	8,961	+ 135.8

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- * Agricultural Statistics of Reorganised States (1956), Government of India.
- * Agricultural Department, Kerala.

TABLES

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TABLE II

PER ACRE YIELDS OF PRINCIPAL CROPS IN KERALA

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4.23

Crops	Yields Per Acre (Lbs.)		
	1958-59	1955-59	Per cent (+)/(-)
1	2	3	4
1. Rice	829	1,108	+ 33.6
2. Jowar	1,120	560	- 50.0
3. Ragi	1,008	1,307	+ 30.0
4. Small Millets	224	448	+ 100.0
5. Total Cereals	829	1,008	+ 21.3
6. Tur	314	1,403	+ 28.3
7. Other Pulses	90	336	+ 273.3
8. Total Pulses	157	358	+ 128.0
9. Cereals and Pulses	896	963	+ 7.3
10. Sugarcane	4,480	35,616	+ 695.0
11. Ginger	739	806	+ 9.1
12. Chillies	..	..	..
13. Tobacco	..	..	..
14. Groundnuts	1,120	1,008	- 10.0
15. Sesamum	291	269	- 7.6
16. Total Oilseeds	918	582	- 36.6
17. Cotton	131	137	+ 19.8
18. Tapioca	8,640	6,332	- 4.3
19. Total Field Crops			
20. Black Pepper	224	246	+ 9.8
21. Cardamom			
22. Rubber	221	273	+ 23.5
23. Tea	387	791	+ 32.3
24. Coffee	236	407	+ 72.5

TECHNO-ECONOMIC SURVEY OF KERALA

TABLE 12
AREA IRRIGATED ACCORDING TO SOURCES
(In '000 acres)

Source	1960-61	Per cent to total	1956-57	Per cent to total	Per cent (+)/(-) (5)/(4)
1	2	3	4	5	6
Government Canals	321	43.15	343	41.38	+ 6.8
Private Canals	68	9.14	71	8.57	+ 4.4
Total Canals	389	52.29	414	49.96	+ 8.6
Tanks	82	11.03	77	9.28	- 6.1
Wells	26	3.49	29	3.49	+11.5
Other sources	247	33.19	309	37.28	+25.1
TOTAL	744	100.00	829	100.00	+11.4

TABLE 13
AREA AND PRODUCTION OF RUBBER IN KERALA

Year	No. of estates on 31st December	Area abandoned during the year (In acres)	New extension during the year including re-planting included in areas abandoned in the previous year	Total area under rubber during the year (In acres)	Area that has been tapped during the year (In acres)	Quantity of dry rubber produced (Tons)
1951	9,026	1,856	4,386	141,759	99,078	13,800
1952	9,186	2,180	3,819	143,448	103,762	15,568
1953	14,231	1,489	1,555	163,254	143,263	19,830
1954	14,336	460	1,769	165,834	17,711	18,768
1955	14,386	2,386	4,963	168,472	132,831	21,605
1956	18,082	4,381	13,785	177,826	150,005	21,079
1957	43,783	4,230	31,699	246,793	167,421	21,496
1958	5,005	2,726	26,558	270,625	169,492	22,159

TABLE 62

EMIGRATION FROM AND IMMIGRATION TO OTHER PARTS OF INDIA

Year	Number of		Percentage of population		Balance
	Immigrants	Emigrants	Immigrants	Emigrants	
1901	82,023	16,346	2.18	0.43	1.75
1911	83,278	26,112	1.91	0.60	1.31
1921	88,603	29,023	1.78	0.58	1.20
1931	164,389	48,503	2.61	0.77	1.84
1951	206,823	203,816	2.23	2.22	0.01

Source: Census of India, 1951, Travancore-Cochin, Part I A, Report.

TABLE 63

INVESTMENT DURING THE COMING DECADE (1960-61 to 1970-71)

Items	State sector (Rs. crores)	Centre and private (Rs. crores)	Total (Rs. crores)	Percentage share in total investment	Percentage share, All- India Third Plan
1. Agriculture	51.7	56.0	107.7	10.8	20.8
2. Plantations	50.6	129.0	179.6	18.1	
3. Forests	5.7	..	5.7	0.6	
4. Animal Husbandry	2.6	..	2.6	0.3	
5. Fisheries	2.3	8.3	10.6	1.1	
6. Minerals	0.3	0.4	0.9	0.1	
PRIMARY SECTOR	113.8	193.7	307.5	30.9	28.8
7. Factory Industries	51.2	114.1	165.3	14.6	
8. Small Scale Sector	14.0	28.0	42.0	4.3	
9. Non-factory Sector	..	18.6	18.6	1.9	
SECONDARY SECTOR	65.2	160.7	225.9	22.8	9.5
10. Power	102.0	..	102.0	10.3	
11. Transport	70.0	28.4	98.4	9.9	
12. Social Services	63.0	100.8	163.8	16.6	
13. Inventories	13.0	60.0	73.0	7.5	
14. Rural Public Works	40.0	..	40.0	4.0	7.8
TERTIARY SECTOR	298.0	189.3	487.3	48.3	50.6
GRAND TOTAL	436.8	543.6	980.4	100.0	100.0
	+47.0	-47.0			
Loans from State Government to the Private Sector	497.8	496.6			

* Investment in social services has been derived from the Third Plan estimates (all-India) by assuming the same per capita investment as in all-India.

Appendix 6

Statement Showing Outturn of Minor Forest Products During 1958-59

Items	Unit	By Government agency		By purchasers		Total Amount (Rs.)
		Quantity	Amount (Rs.)	Quantity	Amount (Rs.)	
1	2	3	4	5	6	7
A. Cardamom lease	lbs.	159	320		21191.68	23512.18
B. Honey (Big bees)	Tons	..	..	244	..	..
-do- (Small bees)	..	..	..	..	..	..
Wax	..	..	..	..	..	..
C. Ivory-Tusks	lbs.	1565.75	32483.00	..	..	32483.00
Servilleoes	lbs.	31.80	226.00	..	..	226.00
Elephant teeth	lbs.	88.00	25.62	..	..	25.62
Bamboo	No.	6607	620.12	6617.00	66720.99	67341.11
D. Bamboos						
" Chillies	Head loads	..	..	163	7.24	7.24
" Chillies	No.	..	..	29100	582.00	582.00
" Thorns	Head loads	..	..	324	40.00	40.00
" Thanayam Bamboo	No.	..	..	50	1.50	1.50
" Local Mongal	No.	..	..	109800	6588.00	6588.00
" Kalmongal	No.	..	..	54800	4392.00	4392.00
" Kalmongal	No.	..	..	2950	142.50	142.50
Split Bamboo	No.	..	..	..	20355.00	20355.00
Sale of bamboo coupes	No.	..	..	1860393	72698.64	72718.89
Reeds (Past)	No.	4050	20251	1600025	6000.42	6000.62
(Air dry)	No.	..	..	3975-1796	11928.67	11928.67
(Air dry)	Tons	..	..			
(Ticket)	No.	..	..	227010	908.04	908.04
(Leaves)	No.	..	..	9730	5130.50	5130.50
E. Rattans (Round)	No.	25	0.50	765970	13812.70	13813.20
(Split)	No.	..	..	73313	41313.90	41313.90
Sales of Rattan coupes	..	..	..	..	31580.00	31580.00
F. Miscellaneous						
(1) Vekka	Head loads	..	..	2706	4845.89	4845.89
(2) Vekka fibre	Cart loads	..	..	5	985.25	985.25
(3) Kynansticks	Head loads	..	..	3	3.75	3.75
(a) -do- fibre	..	..	..	..	0.37	0.37
(4) Kulavoo oil	..	..	..	5078	311.06	311.06
(5) Manwoo leaves	Head loads	..	..	966	966.00	966.00
(a) -do-	Cart loads	..	..	..	..	..

(Continued)

APPENDICES

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Appendix 6 (Continued)

	1	2	3	4	5	6	7
(6) Metal	Cart loads	..	..	42400	477.00	477.00	
(a) -do-	Cart loads	..	..	1077.5	576.25	576.25	
(7) Rubber		..	..		2826.85	2826.75	
(a) -do-	lbs.	..	..	1418	708.75	708.75	
(8) Gravel	Cart loads	..	..	287	71.75	71.75	
(9) Laterite	Cart loads	..	..	1081.5	32.87	32.87	
(10) Sand and Earth	Cubic feet	..	..	9475	146.12	146.12	
(a) -do-	Cart loads	..	..	393	148.25	148.25	
(11) Thatching grass	Cart loads	..	..	279.5	279.86	279.86	
(a) -do-	Head loads	416	26.0	999	351.17	371.17	
(12) Grassing fee			437.00		37169.75	37606.75	
(13) Minor forest produce		..	735.00	..	83611.38	83611.38	
lease							
(14) Rubber Do. Lease		..	..	..	2123.00	2123.00	
(15) Taungya Lease		..	8291.10	..	49627.50	57918.60	
(16) Cashew plantation lease		..	5635.00	..	2401.00	8036.00	
(17) Food production lease		..	..	..	28258.94	28258.94	
(18) Miscellaneous lease		..	580.88	..	2147.30	2728.26	
(19) Konna leaves	Head loads	..	..	25	1.56	1.56	
(20) J.N. Poles	No.	25	20.00	5820	1580.00	1600.00	
(21) J.N. Twigs				..	..	..	
(22) Creepers					..	..	
(23) Thai Posts							
(24) Fodder grass							
(25) Eauthal Leaves							
(26) Penning fee							
(27) Kanskamukw	No.	..	..	117943	1179.25	1179.25	
(28) Wild plantation leaves		..	..	5	0.31	0.31	
(29) Ginger		..	..	8950	181.00	181.00	
(30) Groves & boudlers	cft.	..	..	..	11873.00	11873.00	
(31) Coconut tops lease		..	..	..	..	..	
(32) Tac	lbs.	192.00	192.00	..	..	192.00	
(33) Seeds	lbs.	378	94.50	..	..	94.50	
(34) Grass and leaves	Shraves	49250	493.00	..	..	493.00	
(35) Elephant tail hair	No.	200	300.00	..	..	300.00	
(36) Land lease	Acres	..	..	368.68	2236.31	2239.31	
(37) Site lease		..	..	6.70	30.00	30.00	
(38) Road tax	..	..	..	..	4150.00	4140.00	
(39) Elephant liver	..	..	..	..	163.34	163.34	
(40) Vekka drag ropes	No.	..	..	30881	7720.25	7720.25	
(41) Value of put fallen animals		..	..	..	57.00	57.00	
(42) Azolala	Head loads	..	..	4	0.25	0.25	
(43) Ithy Bowek	No.	..	..	6	1.50	1.50	
(44) Miscellaneous sales	..	..	93.00	..	..	93.00	
(45) Trak stump	..	..	..	2	20.00	20.00	
(46) Departmental compound	..	..	..	..	780.23	780.23	
Lease							
(47) Pepper	lbs.	..	..	30	30.00	30.00	
(48) Bamboo 30' (Export)	No.	..	..	5800	1044.00	1044.00	
(49) Reeds (export)	No.	..	..	245700	2456.00	2456.00	
(50) Other items	..	..	..	..	1393.66	1393.66	
TOTAL				50,299.47	619,001.98	609,361.45	

[Pp. 334-367 not processed]

thayam was followed and caste, or rather sub-caste, endogamy. There was more polyandry in the second generation of this family than in any other encountered so far. I found that Kunji was married to two husbands; Lakshmi, aged thirty three, to four husbands; Paru, thirty, to two husbands; Sita, twenty eight, to three husbands; and Narayani, already mentioned, to two husbands. All the respective husbands were brothers, and only fraternal polyandry was practised. The women had all married early: Kunji and Yakshmi at sixteen, Paru at fifteen, Sita a bit later at twenty four, and Narayani, the youngest, at eighteen. The reason for which Sita had married later was that she had been taken by the three younger husbands of her elder sister Lakshmi, after seventeen years of marriage with the latter. Only Kanju, the eldest, had remained with Lakshmi, and Raman, Narayan and Krishna had decided to marry Sita jointly, when they found that she was not getting married and showed no inclination to do so outside. The two younger brothers of the Mudrikkelparampil household, Raman and Kunyuni, were eighteen and sixteen when they took Nani to wife; she was now twenty. Polyandry certainly did not look as if it were dying out in the blacksmith's caste, judging, at least, from this striking example. [595* 601 614] [582]

The property upon which the family lived was worth four thousand rupees. It consisted of the house, some agricultural implements and a paddy field. The people were tenants of the Nambudri Brahmin janmi Kodierthamana, and paid him the rent of a customary *verumpattam* nine rupees yearly, plus a renewal fee of thrice the rent every twelve years. Poreyn and Kunyuni were practising smiths, hence the implements we had seen on coming in, and Raman worked at the Metal Industries Ltd. in Shoranur, where we camped. They also cultivated the paddy field to produce some of the rice they needed themselves, although the yield was not very great. The genealogy is given in Table 12. [595* 435 429] [326 243 433]

On the 15th of November, 1949, together with interpreter and guide, I visited a family belonging to the third sub-caste of the Kammalans, that of the carpenters or *Asari* (often pronounced *Ashari*). I heard that laterite-cutters called *Puri-asari* or "mud carpenters" were assimilated to these people, but that they only constituted a division of the sub-caste. They are also reputed to be polyandrous; I did not have an opportunity, however, to verify this myself. [595* 564 335 333]

The *Asari* whom I saw that day, lived at Palappuram, a village on the main Shoranur-Palghat road, some few miles east of Ottappalam. The compound of the house was by the side of the road on the right, just beyond the village, coming from the west. It was a very poor looking [595* 342 367]

[Text continues on p 199]

"Europeanism" further enhanced its influence in Malabar with the introduction of new industries and capitalistic enterprise. The coconut, cashew nut and coir industries employ thousands today and have created amongst the people an even greater dependence on the fluctuations of world prices than in the days of the pepper trade. Weaving, tile factories (such as the one founded by the Basel Mission), saw-mills, match factories and metal industries have given many people a new outlook on life which they could never have had in the old days, and has profoundly changed their traditional concepts. Prohibition introduced by the Congress Party Government, with its consequent forbidding of the ancient profession of toddy tapping, has thrown many Tiyas out of work, obliging them to seek their livelihood elsewhere, and modifying for this reason the traditional structure of their economy and family life.

Greater and better medical facilities, as well as a growth in industrial productivity, have brought about a correspondingly sharp rise in the population, so much so, indeed, that today Kerala ranks first in density to the square mile out of the whole of India. Agricultural prosperity has unfortunately not kept pace with this advance, making it often difficult for everyone to obtain food, especially when the monsoon fails, as it often does in the latter part of the year. Foodstuffs, especially grain, have thus to be imported from outside, and when this is not sufficient, many seek work in other parts of the world, leaving their families for years at a time, to emigrate and hire themselves out as labourers in Ceylon, Singapore, and the Malay Federation.

It is not surprising, under the circumstances, that the old order in Kerala has crumbled. Of the rajas and maharajas of old, none are any longer in positions of responsibility, those of Cochin and Travancore having also been made destitute by the recent re-arrangement of States in India. The Nambudri Brahmins are, perhaps, those who, because of their priestly character, continue more than anyone else, to lead the ancient, traditional life. Many of them, however, have gone in for the new enterprises, and if they do not always themselves own and direct them, they have invested funds in them. The younger members of the *illams* appear to be increasingly dissatisfied with their lot, and do not seem prepared to accept the old imperatives of occupation and succession. It may not, after all be just a coincidence that the Communist Party Government now in power in Kerala is headed by a Nambudri Brahmin.

The Nayar caste is no doubt the one that has been the hardest hit by the sweeping changes brought about by altered conditions. But its

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Literary and place-name evidence points to continuing growth of the land within proto-historic or even historic times. It seems likely that there were at least two phases of relative upward movement, represented by erosion surfaces in the laterite at around 250 and 600 ft, while the last stage—that reflected in legend and literature—added the eight miles or so between the existing shore and a line of villages of whose names 'sea' or 'island' is a component; some places mentioned by Ptolemy as sea-ports now lie at a similar distance inland. But all these are near the great Cochin backwater, which suggests—as do the large-scale maps—that normal prograding on a low shoreline of emergence is responsible for this accretion, rather than an actual change of levels. Probably associated with this are the Malabar mudbanks, which lie off all the river mouths. They are up to eight miles long, and their extremely finely comminuted lateritic mud forms as it were an emollient which deadens the ocean swell; in their lee are safe roadsteads for the small ports of the coast.

The general tripartite longitudinal division is found: alluvial coastland, low lateritic plateaus and foothills, gneissic highlands. The division is indeed rather more clear cut than in the more complex Nn lowlands, but each zone has certain peculiarities. In the alluvium is the great development of lagoons and backwaters, saline or fresh, which, with some artificial cuts, form splendid waterways for some 150 miles from the Ponnani mouth to Trivandrum. The largest of these, behind Cochin, widens out Swds into Vembanad Lake. The laterites (including the ?Pliocene Warkalais) form plateaus at 200–600 ft, with much grass and scrub; into them project spurs of the Anaimalai-Cardamom Hills which, S of Palghat, have a very strong SE–NW trend, shown by the Periyar Valley. The hills themselves, rain-swept and forested, will be treated in the next chapter, but it may be noted here that the plantation agriculture of Kerala is confined to them, and the development of hydro-electricity from Pallivasal is of great importance to the agriculture and industry of the lowland.

The Ponnani, the headwaters of which rise on the Nn slopes of the Anaimalais, leads up to the Palghat Gap, nearly 20 miles wide and not much over 1100 ft on its broad sill, which lies beyond the regional limits. Farther S the higher (nearly 1500 ft) and much narrower Shencottah Gap gives access to the extreme S of Madras. It is noteworthy that in both these gaps there were exclaves of Cochin and Travancore territory, extending well E of the watershed in the latter; these, with the ancient walls across the Comorin lowland, emphasise the importance of these sole easy points of contact between Kerala and Tamilnad.

Climate and Agriculture

The climate represents the nearest approach in India to equatorial conditions. Maximum temperatures rarely exceed 90° F., minima rarely fall

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Other Occupations

Fishing, both sea and freshwater, plays a big part in the life of Kerala but, as usual in India, is primitive in technique and organisation. It has, however, some interesting features: Portuguese influence is obvious in the so-called 'China nets' and the crossbow used for shooting fish from river-banks, and there are many varieties of basket-work fish-traps. The catch of 'sardines' is largely used for manuring coconut; prawns are taken in flooded paddy-fields, the skins used as manure and the pulped flesh exported. Normally Burma was a good customer for prawns; the time of transport raised no difficulty as a high degree of putrescence was regarded with favour.

Travancore has a hydro-electric plant at Pallivasal on the Mudrapuzha River, with a capacity of 21,000 kW which can be increased to 36,000. The power is used for the industries of Cochin town and Ernakulam, of which the production of soap and cosmetics from copra is the most important. It also powers the sole Indian aluminium works, at Alwaye, formerly dependent on imported alumina but now increasingly supplied from Muri in Bihar (591 above); and a recent development is the use of electric pumps for 'de-watering' the *cole* lands. The great reservoir impounding the Periyar headwaters was built to supply irrigation water, by tunnel, to the Madras side, but may possibly be developed for power in the future.

Except for local clays and laterite, the only mineral deposits are the ilmenite, monazite, and zircon sands of the Travancore beaches from Quilon to Cape Comorin. These contain 8-10% thorium oxide and were exploited for the manufacture of gas mantles; the spread of electric lighting ruined this demand, but there has been a remarkable recovery. Titania from the ilmenite and cerium from the monazite are essential to some highly specialised electrical and chemical manufactures (electrodes, tracer bullets, and as a catalyst in benzene synthesis, amongst others) and recent developments in atomic research have made these deposits of great strategic significance. Production, which in 1925 fell to one hundred-weight of monazite, amounted in 1944 to 200,000 tons ilmenite, 2000 monazite, and 1600 zircon.

Population and Settlement

Population problems are very serious in Kerala; the density of Cochin in 1941 was the highest for any political unit in India—953 on a total area of 1493 sq mls—locally reaching 2000-4000 in a purely rural environment. Elankunnapuzha village had in 1941 no fewer than 18,173 people on its 3.8 sq mls—a density of 4782. The rate of increase has been very high—for

⁴⁶ A. K. Menon, "Fisheries of Cochin" (*JGy* XIV (1939)), 229-36; C. D. Forde, *op. cit.*, 269.

THE PENINSULAR INTERIOR

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atypical. Much of it indeed revolves around the hill-station of Ootacamund, lying under the highest point of the plateau, Dodabetta (8760 ft). 'Ooty' and its satellites Wellington and Coonor have the usual hills layout of straggling bungalows; they are reached by a metre-gauge rack-railway with gradients of 1 in 12½. There is a little local industry of the kind associated with resort functions: breweries (now presumably under a cloud), sodawater factories, and so on; tea, quinine, and eucalyptus oil are processed, and at Wellington the Government cordite factory had one of the earliest hydro-electric installations in India. Of much greater importance is the power station at Pykara Falls, with an installed capacity of 38,750 kW; large extensions are planned, and in addition the utilisation of the Pykara tail-water over a 1200-ft drop in the Moyar Valley, to produce another 36,000 kW, forming a new link with Mettur. This is in the future; but already the leisure resort of S India has become one of the most vital nodes in its workaday life.

(b) *The Anaimalais, Palnis, and Cardamoms*

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This remarkable group of hills (Figs. 121, 150) is more complex than the Nilgiris, and in Anaimudi itself they have the highest peak of the Peninsula, 8841 ft. The front to the Palghat Gap is remarkably steep and in the E remarkably straight; the SE flanks of the Palnis, overlooking the upper Vaigai re-entrant, are also remarkably abrupt, as are the Cardamoms and their protrusions (Varushanad Hills) S of the Vaigai. But to the NW the hills fray out into long SE-NW ridges; and indeed over much of the area this trend is most marked, the rivers (e.g. the Periyar) having longitudinal stretches of such straightness as to suggest control by faults, with transverse gorges producing a perfect trellis-pattern. Between 10° N and the Shencottah Gap the active streams of the exposed Arabian Sea front have pushed the watershed back to within 4 or 5 miles of the En edge of the hills: here the change from jungle-clad mountains to the tank-pitted Tamilnad Plain is very sudden (Fig. 150).

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Again, apart from the shifting cultivation of tribes some of whom (e.g. Cochin Kadars) are hardly more than hunters and gatherers, the economy is atypical: forests, plantations, hydro-electricity. The most exploited forests, served by special light railways, are in the NW, the Cochin slopes of the Anaimalais. As for plantations, these are not confined to the Wn flanks but are more numerous there, where there is a broader plateau development than on the E. A little coffee and tea are grown in Cochin and in Madura Dt (Madras), but the major share of the plantations (78,000 ac. tea, c. 6000 coffee) is in Travancore, which is also by far the most important rubber-producing area of India, with nearly 100,000 ac. bearing against 13,000 in Malabar and 10,000 in Cochin (1945). It is grown on the lower slopes generally below 1000 and never above 2000 ft, with 80-120 ins.